# Redesigning And Adapting A Concept Of Quality Management In Oncology

Simon Hoelzer, M.D., Ph.D., Joachim Dudeck, M.D., Ph.D.
Institute of Medical Informatics, Justus-Liebig-University of Giessen, Germany

**Background Information.**
Patient Care Evaluation Studies (PCES) have been developed by the Commission on Cancer (COC) in the US to monitor reliably the quality of diagnosis, therapy and follow-up of tumor diseases in hospitals and cancer centers. These studies have seen helpful in evaluating changing patterns of oncological care. Annually up to two studies are carried out. In 1996 thyroid cancer was one of the chosen tumor entities. In this study information regarding patient history, diagnostic tests, treatment, survival and disease status should be obtained for all patients first diagnosed in 1996. Since thyroid carcinoma is a rare and not accurately investigated tumor disease a parallel, cooperating study is organized in Germany to evaluate whether this approach could be also useful in the environment of German and European Healthcare.

**Methodology and Results.**
In order to check out if this tool of quality management is also applicable in Germany we had to redesign and adapt the whole concept. In collaboration with surgeons, endocrinologists, physicians for nuclear medicine, radiooncology, pathology and their corresponding medical organizations, we developed a more comprehensive Data form containing the original US Data items and German specific extensions. Each specialist contributed his ideas and demands in order to get the best set of items concerning diagnostic, therapy and follow-up. As the result of this work, the German PCES includes, for example, detailed information about the performance of surgical treatments, radio-iodine and hormonal therapy, the occurrence of side effects as well as the histological criterion and extend of disease. In contrast to the US, not only initial definitive treatment is recorded but also the consolidation, recidive and long term hormonal therapy. Our patients will be examined at least for the next five years.
For all that, the questionnaire used in our study is completely compatible with the US approach and allows a direct comparison of Data. The infrastructure of Data acquisition in the US, which is mainly done with disseminated computerized cancer Data management tools, differs strongly to Germany. The German cancer centers collect the cases not electronically and not as complete as in the US. We started therefore our Data acquisition efforts in the treatment centers for nuclear medicine and radiooncology since these centers get in contact with nearly all patients during the treatment of a thyroid cancer.
The resonance and the preparedness to cooperate were very impressive and therefore we expect to collect most of the cases of 1996 in our study. For supporting the Data acquisition we developed a database application allowing the input of the required items and the Data export to the study office for further central statistical analysis and interpretation. We made this thyroid cancer database program available for both stand alone and network version. Its size and graphical user interface allow the use in the medical routine with the personal computer on the physicians desktop as well as on tumor registries. The Data are transmitted to the study office in our institute where several plausibility checks are carried out. The centers participating in the study receive the evaluation of their own Data and the results of the analysis of the complete Data set.

**Conclusions.**
The role of Patient Care Evaluation Studies and their sensible use will be demonstrated. If the study will come out successfully a European cooperation with the Commission on Cancer is considered.
In the near future we will be able to set international standards in diagnostical and therapeutical procedures applying the results of this study. The findings of this PCES may serve as a stimulus for further research on the prevention, detection, and cure of thyroid carcinoma.
We make the effort to improve the process of continuous quality management using all available methods of medical informatics, biometrics and epidemiology. An interactive and dynamic access to our oncological databases will be installed applying the current internet technologies for the distribution and collection of biomedical information. The PCES promote the interdisciplinary and multicenter cooperation both on national and international level. The coordination is one of the important functions of the Institute of Medical Informatics in order to facilitate this interdisciplinary work.

**Acknowledgments**
This project is supported by the German Federal Ministry of Health.

The author can be reached by e-mail at:
simon.hoelzer@informatik.med.uni-giessen.de

1091—8280/97/$5.00 